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By-Waetjen, Walter B.

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Some research and ideas about learning, which are of interest to elementary school counselors, deal with individual differences and classroom environment. Studies find girls markedly superior to boys in language skills, with boys better in analytic thinking and transfer of learning. However, no sex differences in intellect have been found. There are differences in perceptions of self and the school experience, basically more negative for boys than for girls. Teachers respond differently to boys than to girls by differentiating instruction in segregated classes, and by giving higher grades to girls even on comparable achievement. The climate of the classroom effects the maturation of students. Counselors, therefore, can help teachers (1) use individual differences constructively, both in tests and in the classroom experiences; (2) become better diagnosticians in collecting data on intellectual and nonintellectual factors and in keeping useful records; and (3) deal effectively with children experiencing classroom difficulties. To accomplish their goals, the counselor should be nonevaluative and experimental in attitude. (KP)

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# Research from Educational Psychology that has Implications for Elementary School Guidance *

by

Walter B. Waetjen, Vice-President
University of Maryland
College Park, Md.

It is my purpose to present some research and ideas about learning and to show the possible relationship of these to the function of an elementary school counselor.

In doing this, I intend to look at some of the problems that occur in schools, and assumptions about causes of the problems with particular reference to: assumptions that teachers make about individual differences and assumptions that educators make about the nature of the classroom environment.

Prior to becoming involved in research on pupil personnel services, I conducted research on one aspect of individual differences, namely, the way in which the sexes approach the learning task. These sex differences in learning will become one part of my presentation. A second part of the presentation will be a discussion of motivation, with special reference to the way in which the classroom environment either promotes or prevents the development of motivation. Finally, there will be a discussion of the role of the elementary school counselor as suggested by the research findings on learning and motivation.

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It is entirely too easy to believe that counseling is a natural social phenomenon that anyone can carry out. If this were true there would be no point in this conference. Counseling is somewhat akin to kissing in the respect that it occurs at all levels of experience and it's a pleasant thing to do. Counseling has further similarities to kissing in that almost everybody feels qualified to practice kissing and they do so at some time or another; and the objectives of kissing while not clearly stated are not entirely intangible. Another trap inherent in both counseling and kissing is that both are apt to be so satisfying that there is little tendency to evaluate them otherwise.

I have found myself through the years particularly interested in individual differences, which I viewed rather globally. It then became of interest to me to single out one of these differences because it is overlooked in our schools. We know full well that no matter how one defines an underachiever (and there are many different definitions of underachieving youngsters), there are far more underachieving males than underachieving females. Those who have been in elementary education are also sensitive to the fact that we have considerably more nonreading or poor reading boys than we have girls. Those who are involved in pupil personnel services can report on the youngsters who are in speech clinics for functional disorders such as stuttering and articulation problems. Ninety-eight percent of those cases are boys. The youngsters referred to counselors by teachers--not on a self-referral basis and not on a parental referral basis--are in the majority, boys. Also, boys drop out before high school graduation more frequently than girls.

The point I am trying to make is this: There is an assumption in education that it really makes little difference whether the student we teach is a boy or a girl. The point is that it really does make a difference whether it is a boy student or a girl student. For example, it becomes quickly apparent that there is a marked superiority of females over males in the language area. This is of concern because, by-and-large, the school experience is verbal, symbolic, or linguistic in nature. Since girls have better language skills, then we have to say that girls have a running start on the school experience. That statement would be supported by the fact that almost any school statistic on the general academic progress of girls--whether in the elementary school, junior high, senior high, or in college--the females have a better grade point average than do the boys.

One study in particular demonstrated that girls have better language abilities than boys. Clark (5) sampled 150 youngsters in grades three, five, and eight out of 69,000 pupils from 48 States and gave them the California Test of Mental Maturity and the California Achievement Test. He found that the results obtained from the California Test of Mental Maturity manifested no sex bias. On the other hand, when he used the Achievement tests, the girls were consistently better in mechanics of English and spelling. He concluded the following: that in basic skill areas, of language, mechanics of English and spelling, girls do consistently better.

On the other hand, males are found to be somewhat better than females in the two curriculum areas of mathematics and science. The reason for this is that the cognitive skill that undergirds these two curriculum areas is analytical thinking. Here the research findings make clear the fact that males are better in analytical thinking. But it must be emphasized that boys are only somewhat better than females in mathematics and science, whereas in the language area, the girls are markedly superior to boys.

Males are somewhat superior to females in transfer of learning. Transfer of learning refers to the application of skill of knowledge to some new situation, that is, an adjustment to a new situation. I have reference particularly to the study done by Kostick (7) in which he found that there was a significant difference in favor of boys in terms of their ability to transfer learning. His conclusion was that this superior ability to transfer was not due to I.Q., previous knowledge, reading comprehension, reading preference, personal traits or practice effects.

All of this sounds very convincing, but one might properly raise the question as to whether in any way teachers are implicated in girls' superior performance in school. The answer to the question appears to be affirmative if teachers' grades are any indication.

When a standardized achievement test is given to a large group of youngsters, and a boy and a girl having identical scores on the test are established as a matched pair, one might predict that teachers would give each member of the pair the same grade. However, it was

determined that invariably, the girls receive higher grades, even though their level of achievement was either identical or highly comparable. The same study ascertained that it didn't make any difference whether it was a male teacher or a female teacher who assigned the grades. Apparently, the sex of the student is more important in the determination of grade than the sex of the teacher, which really means that both men and women teachers are equally biased in giving girls higher grades (4).

A perusal of honor rolls, principals' lists and the like shows roughly a two-thirds female composition, and it does not vary much with the educational level--elementary school, secondary school, college, or university. A study done by Meyer and Thompson (9) in the elementary school classified the interactions between teachers and pupils into positive or negative categories. It was found that teachers attributed significantly more acts of disapproval to boys than to girls. If one examines this finding in relation to what goes into the making of one's self-image, it becomes apparent why boys are not doing as well as girls in school.

Two years ago we completed a study (10) in which we had separated boys from girls in the eighth grade for one hour per day in English instruction. If girls are markedly superior in language, we thought that if we removed the boys from the unfair competition of girls, and if we removed the girls from the ball and chain effect of boys, then the achievement of each might go up. By the way, it did not. Curiously, we found when we sampled attitude that the boys enjoyed the segregated classes while the

girls disliked them! As another dimension of this study, we used the Bales Interaction Analysis Recorder to determine whether teachers taught differently in all boy classes, all girl classes, or combined classes. Some of the categories of teacher behavior were the following: working with small groups, using audio-visual equipment, supporting behavior, disciplining behavior, and lecturing. We discovered that teachers of the all-boy classes lectured two and a half times as much as they did to all girl classes or combined classes. What was distressing to us was that the teachers told us they didn't differentiate their instruction in any way. The point is, they <u>did</u> differentiate but were unaware of it.

A final point has to do with a factor which affects the progress of the sexes in school, and this is perception of self, perception of others (mainly teachers) and attitudes about the school. David Ausubel (2) used fifth and sixth graders to study children's perceptions of parental attitudes. His major finding was that girls perceive themselves as significantly more accepted and intrinsically valued than boys. If we consider what goes into the formation of one's self-image, there is cause to be concerned. Winker, studying the identifications of children, ages seven to sixteen years, found that girls identified more than boys with persons they knew, and in particular with mothers. On the other hand boys identified more with the general male societal role. Identification has a relation to

language development for if a child identifies with someone close to him, like mother, it is much easier to learn vocabulary and voice inflection. On the other hand, if one identifies with the general societal role as males do, it is much more difficult to learn language. One has difficulty learning the role in general and the language in particular.

A study (1) published in the journal, Psychology in the Schools, reported elementary pupils' perception of the social-emotional environment of fourth, fifth, and sixth grade classrooms. One finding was that boys perceived teachers as more "directive," while girls perceived the teachers as "relatable." The girls' attitude toward school was significantly more positive than boys. What this adds up to in terms of the school experience for boys and girls is the following: that there are differences in skills and knowledges, but not in intellect; that there are differences in perception of self and the school experience, basically, being more negative for boys than for girls; and that teachers respond differently to boys than to girls. For instance, they tend to be more controlling of boys by virtue of lecturing, and they give higher grades to girls even though there is a comparable level of achievement.

It seems to me that counselors, particularly in the school, need to be concerned about this kind of individual difference that apparently is being overlooked. We cannot castigate teachers for the kinds of findings that have been reported, for we have done little to help teachers behave differently in the classroom.

The second major point to be discussed in this discourse has to do with motivation. This may be introduced best by citing a study completed in 1963 by Cutler and McNeil (6) at the University of Michigan. They had been carrying out research having to do with mental health consultation in the elementary schools. Teachers were provided with the services of a mental health consultant to help with any problem they perceived in the classroom. What happened to the control groups is of special interest. Cutler and McNeil state: "The global picture is one of the classroom in which the screws have gradually been tightened as the year passes, in which teachers concentrate increasingly on communication of content, but fail meanwhile, to provide the appropriate climate in which this content may be learned. At the same time, pupils respond by losing motivation, cooperating less well, feeling less accepted by teachers and peers, becoming less adequate group members, and becoming anxious about school and standards of performance."

Two parts of that quote introduce the second topic of this paper. The teachers failed to provide the appropriate climate in which curriculum content may be learned, and the pupils responded by losing motivation. These two aspects highlight an apparent belief about classrooms that if the teacher can present the familiar, the known, and the predictable, these spur children to greater learning. Some teachers will even claim that the predictable environment provides "security" for pupils. Nothing could be further from the truth with respect to the development of motivation.

Two researchers (9) tried to find out the responses of first-grade children to novelty, seating them before a mock TV set. If they wanted the picture repeated that was already on the set, they were told to pull a lever. If they pushed a button a new picture appeared. This was novelty. There were two figures presented on each picture. One of the figures was familiar, such as a bird, while the other figure was novel or incongruous, such as a creature having the front half of a bird and the back half of an automobile. The novel stimuli or unfamiliar stimuli elicited significantly more responses than did the familiar or the non-novel stimuli, strongly suggesting that pupils preferred the different rather than the familiar stimuli in their environment.

The other study to be reported in this connection was done by Berlyne (3), who tried to determine the effect of pre-questioning upon learning of science concepts. An experimental group was given a questionnaire about invertebrate animals, which was not given to the control group. Later, both the control and experimental groups were given short paragraphs that described these invertebrates. This was information input. The pre-questionnaire did nothing more than "tune" the organism. A little bit later, both control and experimental subjects were given a 48-item test in which they were told to indicate whether they were <u>certain</u> of the answer from their previous knowledge or whether they were surprised by the question. A major finding was that the experimental subjects were

significantly more certain of their responses and were correct more often than were those in the control group. What this adds up to is that the prequestionnaire, in general, tended to predispose the learner toward information input. Instead of just hearing a teacher, the learner was listening. Instead of seeing, the learners were looking for something; they were curious.

In conclusion, I would suggest these things in terms of how the counselor, or the consultant, might function. I have implied that the elementary school counselor be extremely knowledgeable about learning and motivation in order to bring about the primary prevention of learning disabilities. If this counselor is engaged in primary prevention, he must work with teachers before youngsters have learning difficulties rather than work on a remedial basis. That is not to suggest that the counselor should not give direct service to individual children who have learning difficulties.

Counselors may help teachers to use individual differences constructively. Knowledge of individual differences is not enough, there must be some way for the teacher to translate them into action. That is why I dwelt upon sex differences in learning. For example, there are ways that tests can be constructed so that they perform better. It has been demonstrated that most teacher-made tests are tests of fact, and yet boys do better on tests of principle, that is, tests of concepts or generalizations.

The counselor might also work in the area of individual differences with teachers in helping them to establish experiences in the classroom in which analytical thinking skills of boys might come more into play. By working with teachers, the counselor could help to establish the proper amount of dissonance in a classroom so as to facilitate the development of motivation. The evidence is clear that learning and motivation occur best when the classroom situation is for the most part familiar and predictable, but there's always some dissonance, or lack of familiarity. The question for the teacher is: How do I know whether I have too much or not enough dissonance or consonance? Solutions to the problem may be worked out by the counselor and teacher together, each bringing his unique skills to the solution.

The counselor can help teachers to become better diagnosticians. I do not use this term in a clinical sense, but rather in the sense that in order to teach individuals and to use individual differences constructively, we must have some kind of diagnosis of the individuals to be taught. This diagnosis might occur along three different lines. First, data about intellectual factors should be collected. Notable examples of intellectual factors are intelligence test results and achievement test results. Second, the diagnosis or assessment must include nonintellectual factors, such as the youngster's test anxiety, his self-image as a learner, his attitudes about school, and other developmental factors. Third, counselors can help teachers to keep records that are useful to them. We don't have

records now that are useful to teachers. It is far more useful for a teacher to have a running record of a pupil's skills, understandings, and knowledge, than it is to have on an accumulative record a grade that a youngster has received the previous year in reading or mathematics. It's much more helpful to teachers to know whether that youngster can divide three place numbers by two place numbers, whether he can identify words, whether he has or lacks certain kinds of skills, or has certain outstanding ones, than it is to know that he received a "B" in arithmetic.

The third suggestion as to ways in which the counselor can work with teachers is in terms of helping teachers with those youngsters who are experiencing difficulties in the classroom. It should be noted that the counselor works through the teacher to aid the youngster. Here, the counselor can assist the teacher to identify the problem that he is having with the youngster; to identify alternative solutions or courses of action; to select a course of action, try it out, and evaluate its effectiveness.

If he is to do the things suggested, the elementary school counselor should be characterized by certain personal traits. One of them is that he be nonevaluative in his work with teachers. He should be highly skilled in <u>not</u> evaluating teachers in minute-to-minute interaction with them. Should an administrator use a counselor to help evaluate the teacher,

that counselor's effectiveness has immediately been lost. So, there are two dimensions of nonevaluative functioning: the way the counselor works with the teacher, and the way he works with the administrator who evaluates the teacher.

It's important that the counselor have the personal characteristic of an experimental attitude. This experimental attitude may be learned in part in the counselor education program by taking courses in research. But, the important point is that he learn or develop an <u>attitude</u> about problem-solving rather than that he become a skilled researcher in the classical sense of the term. This attitude coupled with a genuine concern for and liking of people is requisite to the success of the counselor.

## References


1. Anderson, J. and DeVault, R. "The social-emotional climate of elementary school classrooms." Psychology in the Schools, Vol. 2, No. 1, 1965.

2. Ausubel, David. "Perceived parent attitudes as determinants of children's ego structure." Child Development, 1954, 25:173-185.

3. Berlyne, Daniel. "An experimental study of human curiosity." British Journal of Psychology, 45:256-28. April 1952.

4. Carter, Robert. "How invalid are marks assigned by teachers?" Journal of Educational Psychology, 43:218-28, April 1952.

5. Clark, W. W. "Boys and girls -- are there significant ability and achievement differences?" Phi Delta Kappa, 1959. 41:73-74.

6. Cutler, Richard and McNeil, Elton. "Mental health consultation in the schools." Unpublished research report. Ann Arbor, University of Michigan. 1963.

7. Kostick, M. M. "A study of transfer: sex differences in the reasoning process." Journal of Educational Psychology, 45:449-58, December 1954.

8. Meyer, William J. and Thompson, G. G. "Sex differences in the distribution of teacher approval and disapproval among sixth grade children." Journal of Educational Psychology, 49:385-96, 1956.

9. Smock, C. D. and Holt, B. G. "Children's reactions to novelty: experimental study of curiosity motivation." Child Development, 33:631-42.

10. Waetjen, Walter and Fisher, John K. "An investigation of the relationship between separation by sex of eighth grade boys and girls, English achievement and self-concept." Journal of Educational Research. June 1966.